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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION**

CELGARD, LLC,

PLAINTIFF,

V.

SHENZHEN SENIOR TECHNOLOGY
MATERIAL CO. LTD., AND
SHENZHEN SENIOR TECHNOLOGY
MATERIAL CO. LTD. (US) RESEARCH
INSTITUTE,

DEFENDANTS.

Case No. 4:19-cv-05784-JST

**CELGARD'S MOTION FOR A
TEMPORARY RESTRAINING ORDER
AND PRELIMINARY INJUNCTION**

[REDACTED VERSION]

Date: TBD
Time: TBD
Place: Courtroom 6
Judge: Judge John S. Tigar

NOTICE OF MOTION

TO ALL PARTIES AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE THAT as soon as possible at a date and time to be determined by the Court, the notice for a temporary restraining order may be heard, in Courtroom 6 of the above-entitled Court, located at 1301 Clay Street, Oakland, CA 94612, and, on December 18 at 2:00 pm, the notice for a preliminary injunction may be heard. Plaintiff Celgard LLC (“Celgard”) hereby does move for a temporary restraining order and a preliminary injunction prohibiting Defendants Shenzhen Senior Technology Material Co. Ltd., and Shenzhen Senior Technology Material Co. Ltd. (US) Research Institute (collectively, “Senior”) from further misappropriation of Celgard’s trade secrets and confidential information, from further infringement of United States Reissued Patent RE47,520 (the “’520 patent”), formerly United States Patent 6,432,586, and of United States Patent No. 6,692,867 (“the ’867 patent”), from further violations of the California Business and Professions Code, from further inducement of a breach of contract, from further intentionally interfering with prospective economic relations, and from making, using, offering to sell, or selling in the United States, or importing into the United States, products that infringe the ’520 and ’867 patents and/or that include Celgard’s trade secrets or confidential information.

This motion is based on this Notice of Motion, the accompanying memorandum of points and authorities, the concurrently filed declarations of Dr. Ralph White, Dr. Glen Wensley, and Ian McCallum, and all other papers and arguments submitted in connection with this matter and any matters of which the Court may take judicial notice.

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INTRODUCTION

This lawsuit concerns the brazen theft of Celgard's trade secrets and confidential information and the infringement of Celgard's patents by Senior. Celgard is a global leader in the development and production of separators used in lithium-ion batteries for a variety of products, including consumer electronics and electric vehicles. Celgard has invested hundreds of millions of dollars to develop its trade secrets and patented technology over the course of more than 30 years.

Senior, a Chinese manufacturer of battery separators, has avoided the time-consuming and expensive process of developing its own separator technology. Instead, Senior has embarked on a scheme to significantly injure Celgard and take over the global separator market with an intent to eclipse Celgard. Senior's strategy was not based on fair competition, independent research and development, and its own advances in technology. Instead, it was based on stealing Celgard's proprietary information to quickly build products that infringe Celgard's patents.

Senior accomplished its scheme by hiring one of Celgard's lead scientists—Dr. Xiaomin (Steven) Zhang—who worked at Celgard for over 11 years and had knowledge on at least separator membranes, resins, and production and had access to Celgard's most critical trade secrets and confidential information. Before leaving Celgard, Dr. Steven Zhang had access to, and accessed Celgard's trade secrets and confidential information. And when he joined Senior, Dr. Steven Zhang assumed a pseudo-name in China, Dr. Bin Wang, in his position of CTO of Senior, so that Celgard would not be able to locate him. Dr. Zhang violated his contractual obligations to Celgard and used Celgard's trade secrets and confidential information to help Senior rapidly and at low cost create infringing separators. Indeed, after Dr. Zhang joined Senior, key properties of Senior's separators were optimized, Senior produced 20 new products, and Senior's products transformed from being vastly inferior products to being copies of Celgard's separators.

By unlawfully using Celgard's trade secrets and confidential information to develop infringing separators, Senior has taken away important customers from Celgard. Recently, Senior acquired a multi-million dollar contract with one of Celgard's customers by selling its infringing separators at deeply discounted prices [REDACTED] And Senior is seeking to acquire scores more of these contracts. This contract as well as the potential

for additional contracts has and continues to threaten to destroy Celgard's market share, and its reputation and goodwill, which Celgard has worked so hard to achieve. The situation is urgent, and therefore Celgard brings this temporary restraining order and preliminary injunction motion now to stop the harm resulting from Senior's brash past and present stealing of Celgard's trade secrets and confidential information and to stop Senior's ongoing infringement and significant and irreparable harm to Celgard due to the sale of Senior's deeply-discounted and infringing separators.

STATEMENT OF ISSUE

Whether Celgard is entitled to a temporary restraining order and a preliminary injunction enjoining Senior from using Celgard's trade secrets and confidential information in any way, from making, using, offering to sell, selling, or importing separators that infringe the '520 and '867 patents, and from disrupting Celgard's business and inducing Dr. Steven Zhang's further breach.

FACTUAL BACKGROUND

I. Celgard is a Global Leader in Developing Cutting-Edge Separator Technology

Celgard is a U.S.-based and an internationally well-known leader in the production of specialty battery materials. Declaration of Ian McCallum ("McCallum Decl.") at ¶ 3. Celgard has a broad portfolio of highly engineered products used in this industry, and is one of the largest suppliers of separators to the lithium-ion battery industry. *Id.* Celgard's separators are widely used in lithium-ion batteries for electric vehicles ("EVs"), energy storage systems, power tools, and consumer electronic ("CE") devices, such as notebook computers, mobile telephones, and tablets. *Id.* at ¶ 8. EVs include both hybrid EVs, like the Toyota Prius, and full-EVs like Teslas. *Id.* at ¶ 7.

Celgard has invested hundreds of millions of dollars into research and development for new battery separator technologies and is an innovator in both coated and uncoated separators. *Id.* at ¶ 5. Celgard has also invested in significant intellectual property protection. *Id.* at ¶ 9.

II. Introduction to the Technology

A. Rechargeable Lithium-Ion Batteries and Dendrite Growth

Rechargeable lithium-ion batteries have become very popular for use in varying applications. McCallum Decl. at ¶ 14. That is because lithium-ion batteries provide a power source with a higher energy density, longer cycle-life, and higher operational-voltages with a relatively

1 small size and light weight, as compared to other rechargeable batteries. *Id.* at ¶ 18.

2 A separator in a lithium-ion battery prevents direct contact between the electrodes, which
3 facilitates safety and continued operation of the battery. Declaration of Celgard’s technical expert,
4 Dr. Ralph E. White (“White Decl.”) at ¶¶ 25, 31. Lithium batteries present certain unique safety
5 challenges such as lithium dendrite growth—the irregular growth of a metal on an electrode during
6 charging or discharging. *Id.* at ¶¶ 33-35. As a battery is cycled, dendrites may continue to grow,
7 penetrating the separator and making contact with the opposite electrode. *Id.* at ¶ 40. When such
8 contact is made, an electrical short circuit of the battery may occur. *Id.* at ¶ 39. This may cause the
9 battery to malfunction and cause catastrophic failure. *Id.*

10 **B. The ’520 and ’867 Patents**

11 The battery industry has long identified dendrite growth (and associated electronic shorting)
12 as a significant safety issue. Prior to the invention disclosed in the ’520 patent, however, solutions
13 to the problem were varied and achieved mixed results. Celgard invented the separator technology
14 described and claimed in the ’520 patent to address safety and durability problems in lithium
15 batteries. *See* White Decl., Ex. 7. The claimed separator’s ceramic composite layer combines
16 inorganic particles within a matrix material to block dendrite growth. The claimed separator’s
17 polyolefinic microporous layer blocks ionic flow between the anode and cathode at an elevated
18 temperature such as during thermal runaway. This invention significantly improved the
19 performance of separators—a battery with this patented separator is less likely to catch fire, or to
20 experience an electronic short, and more likely to last longer. *Id.* at 1:26-49. The ’520 patent is a
21 reissue of the ’586 patent and will expire on April 10, 2020. The Patent Office has confirmed the
22 validity of claim 12, the claim at issue here, after *four* Patent Office proceedings.

23 Another of Celgard’s inventions is an innovative way to remove a pin from a battery
24 assembly. White Decl. at ¶ 50. In the manufacture of lithium-ion batteries, an anode tape and a
25 cathode tape is wound about one or more pins. If the separator tape sticks on the pin during
26 withdrawal, the tape “telescopes” and must be rejected, increasing manufacturing costs. In response
27 to this problem, Celgard invented a separator, claimed in the ’867 patent, that will not cause
28 telescoping when the battery assembly is removed from the pin. *Id.* at ¶ 51.

III. The Market for Separators

Demand for ceramic coated separators continues to increase with the growing popularity of EVs and CEs that require reliable, safe, high-energy lithium-ion batteries. McCallum Decl. at ¶ 14. Access to this growing customer base is critical to a separator manufacturer's long-term viability. *Id.* Being a part of the innovation cycle is crucial to companies like Celgard. *Id.* at ¶ 19.

A. The Electric-Vehicle Market

The market for plug-in EVs that use lithium-ion batteries is rapidly expanding with an increasing number of makes and models available for sale. *Id.* at ¶ 15. Global EV sales hit 2.1M units in 2018 (+63% year-over-year growth), and OEMs launched 95 new EV models in 2018 with more than 300 to follow in 2020. *Id.* Vehicle manufacturers are rapidly increasing the number of available plug-in EVs as demand grows. *Id.* at ¶ 16. For example, General Motors ("GM") has said it plans to introduce 20 new EV models by 2023. *Id.*

A ceramic coated separator is very common in the vast majority of full-EVs (non-hybrids) operating in the U.S. *Id.* at ¶ 18. The success behind the growth of EVs is significantly correlated with longer per-charge driving range—a critical consumer criteria. *Id.* This is accomplished by very high energy density lithium-ion battery cells. *Id.* The characteristics of these types of lithium-ion battery cells typically lead cell design engineers to specify ceramic coated separators to help address a balance between performance (i.e., longer per-charge driving range) and safety. *Id.*

B. Battery Separator Supply Chain and Competition

Tiered supply chains are the rule in the EV and CE industries, where the final product consists of many complex components and sub-assemblies that must comply with stringent quality, manufacturing, and business standards. McCallum Decl. at ¶ 19. Celgard is an important member of the EV or CE tiered supply chain, supplying components to a battery supplier, who in turn supplies components to an original equipment manufacturer (OEM) that produces CEs, EVs, or energy storage systems. *Id.*

Competition for battery sales does not occur on a unit-by-unit basis. *Id.* at ¶ 20. Rather, battery manufacturers compete to have EV or CE manufacturers use their batteries for an entire product line. *Id.* Supplying batteries and battery parts for EVs and CEs requires extensive testing

1 and validation among the separator supplier, the battery manufacturer, and the EV or CE
2 manufacturer. *Id.* Once selected, the battery manufacturers “design in” a particular separator for
3 that “generation”—i.e., that model’s production life cycle—which, for EVs, lasts from two to five
4 years, or more. *Id.* at ¶ 21. Because many batteries are designed to last for years, and because the
5 ramifications of a battery fire or explosion are so dire, manufacturers tend to stick with a battery
6 design, and a particular separator, for a long time. *Id.* The successful battery manufacturer (and
7 separator manufacturer) thereby procures a blocking position that immunizes it from competition
8 for several years. *Id.* at ¶ 24.

9 Celgard’s experience in the EV market provides a good illustration. *Id.* at ¶ 27. Celgard
10 often collaborates with its customers and potential customers to provide highly-engineered and
11 specifically-designed separators for each customer or potential customer’s requirements. *Id.* at
12 ¶¶ 22, 27. Typically, the selling process for a separator requires a series of meetings between
13 the separator supplier, the battery producer, and sometimes the OEM where requirements are
14 discussed, and sample separators are provided and evaluated. *Id.* The sample separators may
15 be tested as isolated units, or they may be built into working batteries. *Id.* Following testing,
16 the separator manufacturer (e.g., Celgard or competitors like Senior) may modify the separator,
17 and the new separator and batteries built with it are retested. *Id.* This iterative process can
18 continue for months or even years, and it can continue through the approval process, and even
19 can be used to make continuous improvements to the product after it is launched. *Id.* at ¶ 27.

20 Over time, relationships are developed among the supplier, the tiered customer and the
21 OEM at many levels during this process. *Id.* Supplying components for an EV creates a familiarity
22 and confidence that yields an “incumbency effect” that can carry over from one design cycle to the
23 next. *Id.* This “incumbency effect” increases the likelihood that the tiered suppliers and OEM will
24 continue to harvest their initial investment through future contracts. *Id.* Furthermore, through its
25 experience in the EV industry, Celgard has learned that OEMs are more likely to look to their
26 current suppliers for future designs, rather than to suppliers to which the OEMs have not already
27 awarded business, and other OEMs are more likely to select suppliers they know. *Id.* All of this
28 results in a strong competitive advantage for existing suppliers. *Id.* at ¶ 26.

C. Competition in the Chinese Market

The Chinese government is seeking to have China become the global leader in lithium-ion battery technology, as well as the leader in EV technology. McCallum Decl. at ¶ 29. To facilitate these goals, the Chinese government provides subsidies for EVs, which in turn has caused demand for lithium-ion batteries to grow. *Id.* According to market research, there are over 75 competing Chinese companies that are positioned to provide lithium-ion batteries with ceramic coated separators with many more attempting to enter the market, including international manufacturers that must either meet strict standards or partner with a Chinese company. *Id.* To accommodate the increased demand for battery cells (and separators), Chinese manufacturers are adding large numbers of production lines for separators. *Id.* at ¶ 34.

With a large production capability and subsidies, Chinese battery and separator manufacturers [REDACTED]

[REDACTED] This continues to significantly and irreparably harm Celgard. *Id.* One such company that manufactures separators in China and sells them for significantly discounted prices is Senior.

IV. Celgard's Trade Secrets

Celgard has expended significant time, effort, and expertise to develop a variety of valuable trade secrets and confidential information related to its separator technology. Celgard is filing herewith a statement pursuant to California Code of Civil Procedure Section 2019.210, which describes with reasonable particularity the trade secrets currently at issue in this action. In general terms, the trade secrets concern the following: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

V. Celgard Takes Reasonable Efforts to Protect its Trade Secrets

Celgard's trade secrets and confidential information are important to the company, and Celgard takes numerous steps to prevent these trade secrets and information from public disclosure, including, for example: (1) requiring employees to sign non-disclosure agreements and adhere to a code of conduct (and ethics); (2) making non-disclosure of trade secrets and confidential information and applicable security measures explicit in its employee hiring, training, and/or handbook; (3) restricting employee's physical and electronic access to trade secrets and confidential information and to reports containing such information; (4) requiring a valid user login to access electronic information; and (5) requiring employee badges to access Celgard offices and plants. Wensley Decl. at ¶ 12. As a result of its considerable investment in the development, manufacture, marketing, and sale of its products and its efforts protecting its trade secrets and confidential information, Celgard has gained a distinct commercial advantage in the separator market that has resulted in substantial sales and market share for its products. *Id.* at ¶ 13.

VI. Senior's Misappropriation of Celgard's Trade Secrets

Senior has improperly and unlawfully shortcut its development time and expense by usurping Celgard's hard work and sizeable investment by misappropriating and unlawfully using Celgard's trade secrets and confidential information—through former Celgard employee, Dr. Steven Zhang (a/k/a Bin Wang). Dr. Steven Zhang was employed by Celgard from 2005 until October 14, 2016. Wensley Decl. at ¶ 29. When Dr. Steven Zhang joined Celgard, he signed a valid and binding written non-disclosure and non-solicitation agreement with Celgard prohibiting him from disclosing Celgard's trade secrets and confidential information and preventing him from soliciting any Celgard suppliers. *Id.* at ¶ 33. During his over 11 years at Celgard, he was part of the

1 R&D department and worked on resins, polymers, membranes, base films, and process and
2 production technology. *Id.* at ¶ 29. Dr. Steven Zhang was an inventor on a number of Celgard
3 patents, and was extensively and intimately involved with Celgard's separators' design,
4 development, and production. *Id.* at ¶ 31. By the time he left, Dr. Steven Zhang had received the
5 highest technical rank at Celgard (*id.* at ¶ 30), and therefore had unique, detailed, and extensive
6 knowledge not only of Celgard's patented technology, but also of Celgard's trade secrets and
7 confidential information relating to the design and manufacture of Celgard's separators. *Id.* at ¶ 31.

8 Dr. Steven Zhang left Celgard for Senior. *Id.* at ¶ 34. Celgard believes that Senior solicited
9 Dr. Zhang to leave Celgard for Senior. *Id.* at ¶ 35. When Dr. Steven Zhang left Celgard, he changed
10 his name to Dr. Bin Wang, to avoid being identified by Celgard. *Id.* at ¶ 37. Dr. Steven Zhang is
11 currently the CTO of Senior. *Id.* at ¶ 36. Celgard believes Senior hired Dr. Steven Zhang for the
12 specific purpose of using his knowledge of Celgard's trade secrets and confidential information to
13 help Senior develop its infringing separators and to capitalize on his prior relationship and
14 confidential knowledge about Celgard's customers. *Id.* at ¶ 41. Senior continues to employ Dr.
15 Steven Zhang, to steal and use Celgard's trade secrets and confidential information to develop and
16 market competing products, and to infringe Celgard's patents.

17 Celgard believes Dr. Steven Zhang was directly involved in helping Senior design, develop,
18 and devise a manufacturing process for the infringing separators, using Celgard's misappropriated
19 trade secrets and confidential information. *Id.* After hiring Dr. Steven Zhang, Senior developed new
20 separators and its separators greatly improved in quality and became copies of Celgard's separators.
21 *Id.* at ¶ 42. As an example, at least two particular properties of Senior's separators—thermal
22 shrinkage and strength—were optimized after hiring Dr. Steven Zhang to be comparable to that of
23 Celgard's and these properties are Celgard trade secrets. *Id.* Additionally, after hiring Dr. Steven
24 Zhang and using him to steal Celgard's trade secrets and confidential information, Senior produced
25 20 new products (*id.*), and Senior's global market share increased (McCallum Decl. at ¶ 54).

26 When Senior employed Dr. Steven Zhang, Senior knew, or should have known, that Dr.
27 Steven Zhang had acquired Celgard's trade secrets and confidential information. Wensley Decl. at
28 ¶ 40. Senior knew of or should have known of Dr. Steven Zhang's confidentiality agreement with

1 Celgard—an agreement that is standard in the industry, especially given Dr. Steven Zhang’s
2 position at Celgard. *Id.* at ¶ 35. In fact, Celgard sent a letter to Senior explaining that Dr. Steven
3 Zhang had confidentiality obligations to Celgard and that it would be impossible for Dr. Steven
4 Zhang to serve his role at Senior and not use Celgard’s confidential information and trade secrets.
5 *Id.* at ¶ 39. Senior dismissed the letter and continued to employ Dr. Steven Zhang and
6 misappropriate Celgard’s trade secrets and confidential information. *Id.* at ¶ 40.

7 **VII. Senior Manufactures Infringing Copies of Celgard’s Separators**

8 Senior misappropriated Celgard’s trade secrets and confidential information to
9 manufacture infringing copies of Celgard’s separators through Dr. Steven Zhang. A list of
10 Senior’s infringing separators is included in Dr. White’s Declaration at ¶¶ 144, 159. While it
11 has taken years for Celgard to develop its separator technology, within two years of Dr. Steven
12 Zhang joining Senior, Senior has manufactured at least 20 new products and is optimizing its
13 separators. Wensley Decl. at ¶ 42.

14 **VIII. Senior’s Market Share**

15 Due to Senior’s brazen and unapologetic theft, Senior continues to have an increasingly
16 significant presence in the global market for ceramic coated separators, which is significantly and
17 irreparably harming Celgard. McCallum Decl. at ¶ 46. One market report indicates that the global
18 ceramic coated battery separator market was \$792 million in 2018 and is expected to reach \$2.33
19 billion by the end of 2025 with a growth rate of 16.7 % during 2019-2024. *Id.* at ¶ 52. Of the \$792
20 million for the global ceramic coated battery separator market in 2018, the U.S market was over
21 \$143 million—18% of the global revenue. *Id.* The annual growth rate for North America is 16.6%.
22 *Id.* Senior’s market share is approximately 7%. *Id.* at ¶ 53.

23 Celgard estimates that due to Senior’s conduct globally, Senior has or is taking away a total
24 of about [REDACTED]
25 [REDACTED]
26 [REDACTED]
27 [REDACTED] 58. This is
28 significant and irreparable harm to Celgard. *Id.* [REDACTED]

1 [REDACTED]
 2 [REDACTED]
 3 [REDACTED]
 4 [REDACTED].

5 [REDACTED]
 6 [REDACTED]
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]
 10 [REDACTED]
 11 [REDACTED]
 12 [REDACTED]
 13 [REDACTED]

14 [REDACTED] *Id.* at ¶ 45. In addition, based on Celgard’s knowledge of the way
 15 separators and battery cells are sourced in the lithium battery marketplace, Celgard infers that
 16 Senior is custom designing or modifying the battery separators and batteries for specific customer
 17 applications. *Id.* at ¶ 22. This interaction is typically ongoing and occurs before, during and after
 18 launch of the product. *Id.* Any relationship it gains with a battery manufacturer or OEM in this
 19 market, [REDACTED] *Id.* at ¶ 23. Thus, each
 20 sale of infringing separator results in not only a lost potential sale for Celgard but also a lost long
 21 term potential customer relationship and the opportunity to recover on its institutional investment
 22 in research, development, and intellectual property. *Id.* at ¶ 56. This will continue to cause Celgard
 23 significant damage and irreparable harm for which it seeks injunctive relief. *Id.* at ¶ 73.

24 LEGAL STANDARD

25 To obtain a temporary restraining order/preliminary injunction, Celgard “must establish that
 26 it is likely to succeed on the merits, that it is likely to suffer irreparable harm in the absence of
 27 _____

28 ¹ Celgard has sent SDI multiple letters notifying SDI of Senior’s illegal products.

preliminary relief, that the balance of equities tips in its favor, and that an injunction is in the public interest.” *AstraZeneca LP v. Apotex Corp.*, 633 F.3d 1042, 1049 (Fed. Cir. 2010) (alterations omitted and citation omitted). As further explained below, Senior’s conduct meets this standard.

ARGUMENT

I. Celgard is Likely to Succeed on the Merits of Its Claims

A. Celgard is Likely to Succeed on the Merits of its Trade Secret Claims

Celgard is likely to succeed in establishing that Senior’s theft of Celgard’s trade secrets and confidential information and Senior’s wrongful receipt and misappropriation of that information are violations of DTSA and CUTSA. To begin with, the information Senior misappropriated from Celgard are “trade secrets” under both DTSA and CUTSA. Both statutes impose substantially the same three prerequisites for protection as a trade secret: (1) the subject of the misappropriation must be “information” (of *any* type under CUTSA, and effectively any type under DTSA); (2) the owner must have made “reasonable” efforts to maintain the information’s secrecy; and (3) the information must derive independent economic value from its secrecy. *See* 18 U.S.C. § 1839(3); Cal. Civ. Code § 3426.1; *see also* *Waymo LLC v. Uber Techs. Inc.*, No. C 17-00939 WHA, 2017 U.S. Dist. LEXIS 73843, at *22 (N.D. Cal. May 15, 2017) (noting that both DTSA and CUTSA “offer essentially the same definitions”). These three factors are satisfied.

First, as set forth above (*see supra*, Factual Background, IV. Celgard’s Trade Secrets), Celgard’s misappropriated trade secrets concern six categories of information. Such information falls squarely within the definition of “trade secret” information under both federal and state law. *See* 18 U.S.C. § 1839(3); Cal. Civ. Code § 3426.1. Indeed, “manufacturing techniques” is specifically identified as an example of a trade secret in DTSA’s legislative history. H.R. Rep. No. 114-529 at 197 (2016). The Ninth Circuit has likewise concluded that “specific instructions on how to prepare and manufacture” a product constitute actionable trade secrets. *OTR Wheel Eng’g, Inc. v. W. Worldwide Svcs., Inc.*, 602 F. App’x 669, 672 (9th Cir. 2015). Here, Celgard’s 2019.210 Statement lists specific examples of Celgard’s trade secrets.

Second, Celgard took reasonable measures to keep its confidential information secret,

1 including requiring its employees to sign confidentiality agreements; making non-disclosure of
 2 confidential information explicit in its employee hiring, training, and/or handbook; restricting
 3 employee's physical and electronic access to confidential information; requiring a valid user login
 4 to access electronic information; and requiring employee badges to access Celgard offices and
 5 plants. Wensley Decl. at ¶ 12. These steps more than suffice to demonstrate reasonable efforts to
 6 maintain secrecy. *See, e.g., MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 521 (9th Cir.
 7 1993) (holding that a company that "required employees to sign confidentiality agreements
 8 respecting its trade secrets" took "reasonable steps" to ensure secrecy); *Henry Schein Inc. v. Cook*,
 9 No. 16-cv-03166-JST, 2016 U.S. Dist. LEXIS 81369, at *12 (N.D. Cal. June 22, 2016) (finding
 10 confidentiality agreements and restricted access "through password-protected programs" sufficient
 11 to demonstrate reasonable efforts to maintain secrecy).

12 Third, Celgard has derived independent economic value from the secrecy of its confidential
 13 information. The information includes documents that serve as blueprints for the development and
 14 quality testing of Celgard's bread and butter of the company—its separators. Celgard will continue
 15 to suffer economic harm if this information remains available for use by Senior or other companies.

16 Celgard is also likely to establish that Senior misappropriated these trade secrets. DTSA
 17 defines "misappropriation" as:

18 disclosure or use of a trade secret of another without express or implied consent by
 19 a person who (i) used improper means to acquire knowledge of the trade secret;
 20 [or] (ii) at the time of disclosure or use, knew or had reason to know that the
 21 knowledge of the trade secret was (I) derived from or through a person who had
 22 used improper means to acquire the trade secret; (II) acquired under circumstances
 giving rise to a duty to maintain the secrecy of the trade secret or limit the use of
 the trade secret; or (III) derived from or through a person who owed a duty to the
 person seeking relief to maintain the secrecy of the trade secret or limit the use of
 the trade secret.

23 18 U.S.C. § 1839(5)(B). "Improper means" is defined to include "theft, bribery, misrepresentation,
 24 breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or
 25 other means." 18 U.S.C. § 1839(6)(A). CUTSA defines "misappropriation" and "improper means"
 26 in nearly identical terms. *See* Cal. Civ. Code § 3426.1.

27 Senior's actions fall squarely within these definitions. As described in detail above, Dr.
 28 Steven Zhang had access and accessed Celgard's trade secrets. Senior knew that Dr. Steven

Zhang—one of Celgard’s top scientists—had access to Celgard’s trade secrets and confidential information. *See* 18 U.S.C. § 1839(5)(B)(ii), (6)(A); Cal. Civ. Code § 3426.1(a), (b)(2)(B). Senior knew that Dr. Steven Zhang had entered into a standard confidentiality agreement with Celgard. Senior employed Dr. Steven Zhang as Senior’s CTO, which caused Dr. Steven Zhang’s breach of his agreement.² In addition, Celgard sent Senior a letter notifying Senior of Dr. Steven Zhang’s confidentiality agreement with Celgard, which was essentially ignored. Moreover, although not required to prove a violation, Senior *used* Celgard’s trade secret and confidential information to produce copies of Celgard’s separators, optimize its separators and produce 20 new products. Senior thus used Celgard’s trade secrets for the benefit of Senior knowing that they had been acquired in the scope of Dr. Steven Zhang’s employment with Celgard, i.e., circumstances giving rise to a duty to maintain their secrecy. *See* 18 U.S.C. § 1839(5)(B)(ii)(II); Cal. Civ. Code § 3426.1(b)(2)(B)(ii).

Courts in this district have issued temporary and preliminary injunctive relief under similar circumstances. *See, e.g., Waymo*, 2017 U.S. Dist. LEXIS 73843, at *32 (concluding that Uber hired former Waymo employee “even though it knew or should have known” that the employee possessed confidential material that qualifies for trade secret protection); *see also Henry Schein, Inc. v. Cook*, 191 F. Supp. 3d 1072, 1077 (N.D. Cal. 2016) (issuing a preliminary injunction because the plaintiff showed that the defendant had signed agreements containing confidentiality provisions). Under these cases, the Court should find that Celgard is likely to succeed on its trade secret misappropriation claims.

B. Celgard is Likely to Succeed on its California Business and Professions Code and its Intentional Interference with Prospective Economic Relations Claims

Celgard is also likely to succeed on its California Business and Professions Code and its Intentional Interference with Prospective Economic Relations Claims. Section 17200 of California Business and Professions Code prohibits “any unlawful, unfair or fraudulent business act or practice[.]” “Virtually any law-federal, state, or local-can serve as a predicate for a section 17200 action.” *State Farm Fire & Casualty Co. v. Superior Court*, 45 Cal. App. 4th 1093, 1102–03 (1996)

² For these same reasons, Celgard is likely to succeed on its claim for inducing breach of contract. *See* Complaint, Dkt. No. 1, at ¶¶ 173-179.

(abrogated on other grounds by *Cel-Tech Commc'ns, Inc. v. Los Angeles Cellular Tel. Co.*, 20 Cal. 4th 163, 180 (1999)). Here, Senior has diverted and attempted to divert customers away from Celgard through the use of trade secrets misappropriated from Celgard. Indeed, Senior has already diverted at least one customer—[REDACTED]—and is attempting to divert scores more. Such conduct, which is based on the theft of Celgard's proprietary information violates California Business and Professions Code and is an intentional interference with prospective economic relations.

C. Celgard is Likely to Succeed on its Patent Infringement Claims

To establish likelihood of success on the merits for a patent infringement claim, Celgard must show (1) it will likely prove infringement of one or more claims of the patent and (2) if validity is challenged, that the infringed claim is likely valid. *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1374 (Fed. Cir. 2006). An accused infringer cannot defeat a patentee's showing of likelihood of success on the merits without raising a "substantial question" concerning infringement or validity. *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1364 (Fed. Cir. 2008). As explained below, Celgard is likely to succeed on its patent infringement claims.

1. Senior Directly Infringes the '520 Patent

The '520 Accused Products³ infringe claim 12 of the '520 patent either literally or under the doctrine of equivalents.⁴ This is detailed in Dr. White's declaration, an infringement claim chart, exhibits, as well as testing results set forth in the McCallum declaration. White Decl. at ¶¶ 65-144; McCallum Decl. at ¶¶ 74-77.

12(a) "at least one ceramic composite layer or coating"

The '520 Accused Products are ceramic composite coated separators, as confirmed by product literature. White Decl. at ¶¶ 73-76.

12(a-1) "said layer including a mixture of 20-95% by weight of inorganic particles selected from the group consisting of SiO₂, Al₂O₃, CaCO₃, TiO₂, SiS₂,

³ The analysis below refers to only Senior's SH416W14 and SH216D22 separators, but applies equally to the remaining '520 Accused Products. White Decl. at ¶ 144.

⁴ There should be no dispute about the meaning of claim 12's terms. They are ordinary terms understood by those skilled in the relevant art in light of the specification of the patent. *Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001) ("[T]he meaning of 'melting' does not appear to have required 'construction,' or to depart from its ordinary meaning.").

SiPO₄, and mixtures thereof

The '520 Accused Products contain inorganic particles made up of Al₂O₃ (aluminum oxide), as confirmed by product literature and SEM images. White Decl. at ¶¶ 77-81.

12(a-2) “and 5-80% by weight of a matrix material selected from the group consisting of polyethylene oxide, polyvinylidene fluoride, polytetrafluoroethylene, copolymers of the foregoing, and mixtures thereof”

The '520 Accused Products contain 5-80% weight [REDACTED] [REDACTED] performs substantially the same function, in substantially the same way, to achieve substantially the same result as the claimed matrix material. *Id.* at ¶¶ 84, 88.

The matrix material (or binder) recited in limitation 12(a-2) is a binder that contributes to the prevention of electronic shorting by preventing dendrite growth. That is what the '520 patent explains. For example, the '520 patent describes that the matrix material “[has] inorganic particles 28 dispersed therethrough,” and Figure 2 of the '520 patent shows the adhesion of the particles 28 in the ceramic coated layer 22 and/or the adhesion of the ceramic coated layer to the polyolefin layer 24 through the matrix material 26. *Id.* at ¶ 92. The '520 patent provides that the “matrix material 26 is that component of a separator which, in part, prevents electronic shorting by preventing dendrite growth.” *Id.* at Ex. 7, 3:15-19. Accordingly, the matrix material’s function is to act as a binder and to contribute to the prevention of electronic shorting by preventing dendrite growth.

The way the matrix material (or binder) carries out this function is by adhering the ceramic particles directly and/or indirectly together and/or to a polyolefin layer—i.e., “gluing.” *Id.* at ¶¶ 82-83, 91-94. The result achieved by the matrix material (or binder) is to bind the inorganic particles in the manner described above to improve safety (i.e., prevent thermal runaway and to preserve cycling efficiency). *Id.* at ¶¶ 105-112; Ex. 7 at 1:31-35.

The [REDACTED] performs the same function as the claimed matrix material—binds particles and contributes to preventing electronic shorting by preventing dendrite growth. *Id.* at ¶¶ 95-100. This is confirmed in the SEM images of the '520 Accused Products as well as Senior product material. *Id.* at ¶¶ 96, 97. [REDACTED]

1 [REDACTED] performs the function in the same way as the claimed matrix
 2 material—adheres or glues inorganic particles such as Al_2O_3 . *Id.* at ¶102. This is confirmed by
 3 SEM images of the '520 Accused Products as well as SEM images [REDACTED]
 4 [REDACTED]. *Id.* The [REDACTED]
 5 [REDACTED] achieves the same results as the claimed material—increased safety of the '520
 6 Accused Products. *Id.* at ¶ 107. This is confirmed by Senior's product literature. *Id.* at ¶ 110. In
 7 addition, one of ordinary skill in the art would consider the matrix material (or binder) in Senior's
 8 products to be interchangeable with the claimed matrix materials. *Id.* at ¶¶ 113-118. Chinese Patent
 9 Publication [REDACTED] explains [REDACTED]
 10 [REDACTED] Thus, one of ordinary skill in the art would
 11 consider the matrix material in the '520 Accused Products as insubstantially different from the
 12 claimed matrix material. *Id.* at ¶ 84.

13 **12(a-3) "said layer being adapted to at least block dendrite growth and to**
 14 **prevent electronic shorting; and"**

15 The combination of the matrix material and the inorganic particles dispersed throughout the
 16 matrix material acts to prevent dendrite growth and to prevent electronic shorting. White Decl. at
 17 ¶¶ 119-123. Product literature discusses that the predicate for safety in the '520 Accused Products
 18 is the ceramic composite layer's ability to block dendrite growth, and thus to prevent electronic
 19 shorting. *Id.* The '520 Accused Products include a dispersion of the inorganic particles throughout
 20 the matrix material, which acts to block dendrite growth, preventing electronic shorting. *Id.*

21 **12(b) "at least one polyolefinic microporous layer,"**

22 The '520 Accused Products contain a polyolefinic microporous layer, as confirmed by
 23 product literature. *Id.* at ¶¶ 124-127.

24 **12(b-1) "having a porosity in the range of 20-80%,"**

25 The '520 Accused Products contain either a polyethylene or polypropylene layer and have
 26 a porosity in the claimed range of 20-80%, as confirmed by product literature. *Id.* at ¶¶ 128-130.

27 **12(b-2) "an average pore size in the range of 0.02 to 2 microns,"**

28 The SEM images from the testing of the '520 Accused Products show the average pore size

1 to be approximately 0.1 micron, which falls within the claimed range. *Id.* at ¶¶ 131-133.

2 **12(b-3) “and a Gurley Number⁵ in the range of 15 to 150 sec.”**

3 The ’520 Accused Products have a Gurley number in the range of 15 to 150 sec, as
4 confirmed by product literature. *Id.* at ¶¶ 134-138.

5 **12(b-4) “said layer being adapted to block ionic flow between an anode and a
6 cathode.”**

7 The ’520 patent identifies polyethylene and polypropylene as preferred layer materials,
8 whose properties block ionic flow between an anode and a cathode during thermal runaway. *Id.* at
9 ¶ 140, Ex. 7 at 2:57-60; 5:5-7. As discussed above, the ’520 Accused Products use either porous
10 polyethylene or polypropylene, and therefore block ionic flow between an anode and cathode
11 during thermal runaway. *Id.* at ¶¶ 141-142. Thus, the ’520 Accused Products infringe the ’520
12 patent.

13 As to validity, the ’520 patent is presumed valid, and the statutory presumption alone
14 establishes a likelihood of success on the issue of validity. *See Canon Comput. Sys., Inc. v. Nu-*
15 *Kote Int’l, Inc.*, 134 F.3d 1085, 1088 (Fed. Cir. 1998). Additionally, claim 12 has been challenged
16 *three* times in *inter partes* review proceedings with different prior art, and has been found valid
17 *each time*. ’520 patent at *Inter Partes* Review Certificate. In addition, the validity of claim 12 has
18 been recently confirmed again in a reissue application.

19 **2. Senior Directly Infringes the ’867 Patent**

20 The ’867 Accused Products literally infringe claim 17 of the ’867 patent.⁶ This is detailed
21 in Dr. White’s declaration and an infringement claim chart. White Decl. at ¶¶ 145-157.

22 **“A battery separator with improved pin removal properties comprising”**

23 The ’867 Accused Products contain this limitation, as confirmed by product literature.
24 White Decl. at ¶¶ 150-151.

25 **“a microporous membrane having a polypropylene surface portion including
26 at least 50 ppm of a metallic stearate”**

27 ⁵ The ’520 patent defines the Gurley number as “the time it takes for 10 cc [ml] of air at 12.2 inches
28 of water to pass through one square inch of membrane.” White Decl. at ¶ 125.

⁶ There should be no dispute about the meaning of claim terms in claim 17. They are ordinary terms
understood by those skilled in the relevant art in light of the specification of the patent.

1 The '867 Accused Products contain this limitation, as confirmed by product literature.
2 White Decl. at ¶¶ 152-157.

3 In addition, this patent is presumed valid. As Senior has not yet raised an invalidity defense,
4 Celgard may properly rely on the presumption at this time.

5 **3. Senior Indirectly Infringes the '520 and '867 Patents**

6 Senior indirectly infringes the '520 and '867 patents by inducing and contributing to the
7 direct infringement of downstream customers that use the infringing Senior separators. 35 U.S.C.
8 § 271(b), (c). Senior induces infringement because it has “induced infringing acts and . . . knew or
9 should have known [its] actions would induce actual infringement.” *DSU Medical Corp. v. JMS*
10 *Co.*, 471 F.3d 1293, 1304 (Fed. Cir. 2006). “Evidence of active steps . . . such as advertising an
11 infringing use or instructing how to engage in an infringing use, show an affirmative intent that the
12 product be used to infringe” *Id.* at 1305 (internal citation omitted). Here, Senior induces its
13 downstream customers to infringe. It does so through documentation accompanying its separators,
14 as well as its technical support, demonstrations, and/or tutorials. In addition, intent may be inferred
15 from Senior’s knowledge of the patent and control over the design or manufacturing of the product
16 used for direct infringement. *See, e.g., Ricoh v. Quanta Computer*, 550 F.3d 1325, 1343 (Fed. Cir.
17 2008) (*citing Water Techs. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1998)). Senior controls the
18 design and manufacturing of its separators and Senior knew of at least the '520 patent through the
19 February, 2019 notice letter, through press coverage, and likely through being Celgard’s direct
20 competitor.

21 Senior also infringes via contributory infringement. Contributory infringement under
22 § 271(c) does not require proof of active steps to induce infringement; rather, the sale of a product
23 with no substantial use other than one that infringes the patent may constitute infringement. 35
24 U.S.C. § 271(c); *Ricoh*, 550 F.3d at 1337. Senior’s separators are made to be used in lithium-ion
25 batteries in a way that infringes Celgard’s patents, as described above. Thus, Senior’s separators
26 are “good for nothing else but infringement of the patented” claims, and Senior’s sales of the
27 infringing separators create contributory liability. *Ricoh*, 550 F.3d at 1337. Furthermore, Senior
28

1 had knowledge of the Asserted Patents (as discussed above) and as “one who makes and sells
2 articles which are only adapted to be used in a patented combination,” Senior is “*presumed* to
3 intend the natural consequences of [its] acts.” *DSU Medical*, 471 F.3d at 1303 (internal citation
4 omitted) (emphasis added).

5 **II. Celgard Has, Is, and Will Continue to Suffer Irreparable Harm**

6 Celgard has already suffered significant irreparable harm, and is likely to continue to suffer
7 significant irreparable harm if Senior is not enjoined. Courts in this district and elsewhere have
8 frequently held that threatened or continued use of misappropriated trade secrets presumptively
9 constitutes irreparable harm for purposes of granting temporary and preliminary injunctive relief.
10 *See, e.g., W. Directories, Inc. v. Golden Guide Directories, Inc.*, No. C 09-1625 CW, 2009 U.S.
11 Dist. LEXIS 52023, at *18-19 (N.D. Cal. June 8, 2009) (“The Court presumes that Plaintiff will
12 suffer irreparable harm if its proprietary information is misappropriated.”); *Pixon Imaging, Inc. v.*
13 *Empower Techs. Corp.*, No. 11-CV-1093-JM (MDD), 2011 U.S. Dist. LEXIS 94741, at *18 n.7
14 (S.D. Cal. Aug. 24, 2011) (“[A]n intention to make imminent or continued use of a trade secret or
15 to disclose it to a competitor will almost always show irreparable harm.”). That presumption applies
16 here.

17 Even beyond this presumption, Celgard will continue to suffer immediate and irreparable
18 harm without relief. With each passing day, Senior continues to wrongfully leverage Celgard’s
19 trade secrets to bolster its own know-how and to make progress toward marketing its own copy-cat
20 versions of Celgard’s separators. As explained more below, the threat is imminent—Celgard has
21 lost [REDACTED] from Senior, and Senior is using its copycat separators to
22 secure long-term partnerships and business arrangements with third parties, including the above-
23 mentioned deal with [REDACTED] *See Brocade Commc’ns Sys., Inc. v. A10 Networks, Inc.*, No. 5:10-cv-
24 03428-PSG, ECF No. 880, at 22 (N.D. Cal. Jan. 23, 2013) (“Commercial advantage is grounds for
25 finding irreparable harm under the CUTSA.”). Celgard’s harm from such further dissemination of
26 its trade secrets is incalculable, and could result in the total destruction of their economic value.
27 This undoubtedly constitutes irreparable harm. *Cf. Faiveley Transp. Malmö AB v. Wabtec Corp.*,
28 559 F.3d 110, 118 (2d Cir. 2009) (“[R]ebutable presumption of irreparable harm might be

1 warranted in cases where there is a danger that, unless enjoined, a misappropriator of trade secrets
2 will disseminate those secrets to a wider audience or otherwise irreparably impair the value of those
3 secrets.”).

4 In addition, courts have repeatedly found that “price erosion, damage to ongoing customer
5 relationships, loss of customer goodwill (e.g., when an effort is later made to restore the original
6 price), and loss of business opportunities” support a finding of irreparable harm, particularly in
7 patent infringement cases. *Celsis in Vitro, Inc. v. CellzDirect, Inc.*, 664 F.3d 922, 932 (Fed. Cir.
8 2012) (affirming district court’s statement that “[t]here is no effective way to measure the loss of
9 sales or potential growth—to ascertain the people who do not knock on the door or to identify the
10 specific persons who do not reorder because of the existence of the infringer”); *see also Abbott*
11 *Labs.*, 544 F.3d at 1362. Loss of market share and loss of access to customers are also pertinent
12 factors that support a finding of irreparable harm in patent cases. *Trebro Mfg. v. FireFly Equip.,*
13 *LLC*, 748 F.3d 1159, 1170 (Fed. Cir. 2014). Here, Senior’s unlawful conduct is causing [REDACTED]
14 [REDACTED], damage to Celgard’s ongoing customer relationships, loss of customers and business
15 opportunities, loss of market share and sales, and damage to Celgard’s goodwill and reputation.
16 This factor weighs heavily in favor of injunctive relief.

17 **A. Celgard is Losing Sales, Business Opportunities, its Competitive Edge, and**
18 **Customers**

19 “Direct competition in the same market is certainly one factor suggesting” the “strong[] . .
20 . potential for irreparable harm” absent injunctive relief. *Presidio Components, Inc. v. Am. Tech.*
21 *Ceramics Corp.*, 702 F.3d 1351, 1363 (Fed. Cir. 2012). That is because in a confined and “niche”
22 market such as the separator market here, each sale made by Senior of infringing separators is
23 “essentially a lost sale” to Celgard, which necessarily results in a lost customer, and subsequent
24 loss of market share, which is not remediable by money damages. McCallum Decl. at ¶ 56; *see*
25 *Trebro*, 748 F.3d at 1170 (finding that where parties occupied a small market, loss of market share
and customers from which plaintiff could not likely recover constituted irreparable harm).

26 The irreparable harm is particularly strong where, as here, Celgard is losing [REDACTED]
27 [REDACTED] of business to Senior. [REDACTED]
28 [REDACTED]

1 [REDACTED] *Id.* at ¶ 57. [REDACTED]

2 [REDACTED]

3 [REDACTED] *Id.* at ¶ 58. And, [REDACTED]

4 [REDACTED]

5 Because of the tiered supply chain for the EV and CE industries, lost business relationships
6 are immeasurable and will permanently harm Celgard. McCallum Decl. at ¶ 60; *see. Cordelia*
7 *Lighting, Inc. v. Zhejiang Yankon Grp. Co. Ltd.*, No. EDCV 14-881 JGB (SPx), 2015 U.S. Dist.
8 LEXIS 189725, at *23 n.2 (C.D. Cal. Apr. 27, 2015). This is especially true in light of the fast-
9 approaching expiration of the '520 patent in April, 2020. McCallum Decl. at ¶ 61. That is because
10 once an EV or CE manufacturer approves of using a certain battery with a certain separator, that
11 market is essentially locked up for years because changes cannot readily be made without re-
12 seeking approval through a lengthy qualification process. *Id.* at ¶ 21. Therefore, absent an
13 injunction, Senior's infringement could shut Celgard out of the EV and CE markets for years, if not
14 permanently. *Id.* at ¶ 22. The harm is compounded by the accelerating growth of markets like EVs
15 that use lithium-ion batteries. Indeed, the EV and CE markets are characterized by so-called "design
16 win" scenarios where a chosen supplier's component is essentially designed into the OEM product
17 for its lifecycle, an infringing supplier (like Senior) gains an "incumbency advantage," making it
18 more likely to be chosen by the manufacturer in future design cycles, placing Celgard at an unfair
19 and persistent competitive disadvantage. *Id.* at ¶¶ 21-27; *see also Broadcom Corp. v. Emulex Corp.*,
20 732 F.3d 1325, 1337 (Fed. Cir. 2013) ("[I]n a design win market, there is an incumbency effect
21 which enhances a winning supplier's ability to successfully compete in successive design
22 competitions."); *Sealant Sys. Int'l, Inc. v. TEK Global S.R.L.*, No. 5:11-cv-00774-PSG, 2014 U.S.
23 Dist. LEXIS 31528, at *97 (N.D. Cal. Mar. 7, 2014) (same).

24 Here, the incumbency effect is particularly acute, as EV manufacturers generally do not
25 redesign their products from scratch from one EV platform to the next. McCallum Decl. at ¶ 27.
26 Rather, they are more likely to continue to harvest their initial investment in a design by awarding
27 work to suppliers that already supplied components for earlier models, particularly after having
28 developed a familiarity with and confidence in that supplier. *Id.* Further, securing customer loyalty

1 is especially important in an emerging and rapidly accelerating market like the EV market. *Id.* at
 2 ¶ 14; see *Bendix Commercial Vehicle Sys., LLC v. Haldex Brake Prods. Corp.*, No. 1:09 CV 176,
 3 2011 U.S. Dist. LEXIS 312, at *18 (N.D. Ohio Jan. 3, 2011) (granting injunction, as enforcing
 4 plaintiffs exclusive patent rights could “increase the customer loyalty of Plaintiff’s existing
 5 customers” in a market of growth). Senior’s theft of Celgard’s intellectual property thus permits
 6 Senior to gain “unwarranted additional business” from battery manufacturers who in turn gain
 7 business from EV manufacturers, which places Celgard at an unfair competitive disadvantage in
 8 future product cycles.

9 In such a “design-win” market, an infringing supplier, such as Senior, also deprives Celgard
 10 of the opportunity to closely collaborate with a manufacturer, which provides insight into the
 11 manufacturer’s technical requirements and future plans, thereby allowing the supplier to better
 12 compete for business. McCallum Decl. at ¶ 26. Therefore, when Celgard loses a sale due to Senior’s
 13 infringement, it does not simply lose profits, it loses customers, for years and potentially
 14 permanently. *Id.* at ¶ 61. In a market with few customers, that loss is particularly significant. *See,*
 15 *e.g., Trebro*, 748 F.3d at 1170 (finding irreparable harm and noting that “every sale to FireFly is
 16 essentially a lost sale to Trebro” which “translates into a lost customer” (internal citations omitted)).
 17 Absent an injunction, Senior’s infringement could shut Celgard out of the EV and CE markets for
 18 years, if not permanently. McCallum Decl. at ¶ 24. Senior must be stopped now.

19 [REDACTED]
 20 Celgard is also being harmed by [REDACTED]. Because of government subsidies, Senior
 21 [REDACTED]
 22 [REDACTED]
 23 [REDACTED] and has caused significant harm to Celgard. *Id.* at ¶ 37; see *Canon,*
 24 *Inc. v. GCC Int’l Ltd.*, 263 F. App’x 57, 62 (Fed. Cir. 2008). [REDACTED]
 25 [REDACTED]
 26 [REDACTED]
 27 [REDACTED]
 28 [REDACTED]

1 [REDACTED] even if the Accused
 2 Products are eventually removed from the market. *Id.* Attempting to do so would cause significant
 3 anger and resentment in the industry. *Id.* As a result, sales of infringing separators by Senior will
 4 cause [REDACTED]. *Id.* Also, because the Accused Products
 5 are direct competitors to Celgard's patented separators, those infringing separators have a
 6 particularly large and direct impact upon Celgard. *Id.* at ¶ 56; *see Robert Bosch LLC v. Pylon Mfg.*
 7 *Corp.*, 659 F.3d 1142, 1149-50 (Fed. Cir. 2011) (noting that irreparable harm is more easily found
 8 when the parties are direct competitors in the same market); *see also LifeScan, Inc. v. Shasta Techs.,*
 9 *LLC*, 933 F.Supp.2d 1243, 1261-62 (N.D. Cal. 2013). As stated by the court in *Canon*, [REDACTED]
 10 [REDACTED]
 11 [REDACTED] 263 F. App'x at 62.
 12 [REDACTED] *See Bosch*, 659 F.3d at
 13 1153-55; *Sanofi-Synthelabo*, 470 F.3d at 1382.

14 As a market leader, Celgard enjoys a preeminent position, to which other companies aspire.
 15 However, Senior is seeking to drive Celgard [REDACTED]
 16 [REDACTED] McCallum Decl. at ¶ 45. This will continue to sharply reduce Celgard's
 17 market share and jeopardize its position as the market leader. *Id.* Indeed, in 2018, Senior had 7%
 18 of the global market share. *Id.* at ¶ 53. This is significant and irreparable harm to Celgard.

19 C. Harm to Celgard's Reputation and Goodwill

20 Celgard is also likely to suffer great injury to its reputation and goodwill without an
 21 injunction. [REDACTED] diminishes the
 22 distinctiveness and market lure of Celgard's separators. Celgard has been on the market for many
 23 years with a proven track record in the battery separator market. McCallum Decl. at ¶ 6. Senior's
 24 infringing separators cut into Celgard's entire business and very identity. *Id.* at ¶ 45. Sales of these
 25 infringing separators in place of Celgard's separators at [REDACTED]
 26 [REDACTED] undermining the goodwill that Celgard worked so hard to develop. *Id.*
 27 at ¶ 66. This resulting harm to Celgard would be difficult or impossible to quantify, and would
 28 occur even if Celgard [REDACTED] in response to Senior's illegal activities.

1 *Id.* Celgard’s reputation for innovation will be irreparably damaged if Senior is allowed to continue
2 to sell infringing and misappropriated copies of Celgard’s separators during the pendency of this
3 litigation, thereby dulling Celgard’s competitive edge as an innovator with a unique separator. *Id.*

4 **D. Loss of the Right to Exclude**

5 Celgard has invested significant resources in developing the technology behind its patents
6 and trade secrets and has pursued enforcement of its intellectual property. McCallum Decl. at ¶ 9.
7 Sales of infringing copies of Celgard’s separators by Senior (obtained by misappropriating
8 Celgard’s confidential information and trade secrets) deprive Celgard of the principal value of its
9 intellectual property. Indeed, “[a]bsent a preliminary injunction, [Celgard] would lose the value of
10 [its] patent[s]. . . .” *Celsis*, 664 F.3d at 931. Celgard and Senior directly compete and failure to
11 enjoin Senior’s infringement would compound the harm to Celgard, as third parties would be
12 emboldened to infringe and misappropriate Celgard’s confidential information and trade secrets,
13 further undermining Celgard’s reputation among customers as an innovator with robust intellectual
14 property rights. *Smith Int’l, Inc. v. Hughes Tool Co.*, 718 F.2d 1573, 1581 (Fed. Cir. 1983).

15 In sum, the harm is particularly great where, as here, [REDACTED]
16 [REDACTED]

17 [REDACTED] the ’520 patent is about to expire. The fact that trial—on a normal timetable—
18 would come too late for an injunction to be available is, itself, a form of irreparable harm. Absent
19 injunctive relief, the substantial and irreparable harm Celgard will incur before final judgment “defy
20 attempts at valuation” because Senior’s infringing acts will have significantly changed the market
21 in the interim and leave Celgard without an adequate remedy at law.

22 **III. The Balance of Hardships Weighs in Favor of an Injunction**

23 Senior will suffer no prejudice if it is barred from using technology and information it has
24 no legitimate right to use or possess. Indeed, the “balance of hardships tips in favor of plaintiff
25 seeking [an] injunction when it would do no more than require Defendant to comply with federal
26 and state . . . laws.” *Cook*, 191 F. Supp. 3d at 1077 (internal quotation marks omitted). An
27 injunction will help maintain the status quo in the market, preventing Senior from improperly taking
28 market share from Celgard and [REDACTED] and misappropriation.

Should an injunction not issue, Celgard will be irreparably harmed by continued market [REDACTED] [REDACTED] potentially emboldening third parties' infringement into Celgard's main business: separators. And an injunction that "ultimately prevents an upstream misappropriator from profiting from its alleged theft of protected technology by limiting the downstream user is not a hardship because it simply prevents the misappropriator from doing that which the law already prohibits." *Celgard, LLC v. LG Chem, Ltd. et al.*, No. 3:14-cv-43, 2014 U.S. Dist. LEXIS 100928, at *15 (W.D.N.C. July 18, 2014) (internal quotations and citations omitted).

IV. The Public Interest Weighs In Favor of an Injunction

The public interest also favors an injunction: "safeguards imposed . . . in response to brazen misappropriation of trade secrets . . . would hardly discourage legitimate competition in a field where intellectual property rights are important to innovation." *Waymo*, 2017 WL 2123560, *Waymo*, 2017 U.S. Dist. LEXIS 73843, at *38. Courts heavily weigh the public's interest in encouraging innovation through enforcement of intellectual property. *Abbott Labs.*, 544 F.3d at 1362-63. These interests typically outweigh claims that an injunction will harm competition. Further, "rarely will the public interest be seriously affected by the grant or denial of an injunction" except for critical interests like public health or national security. *Pentair Water Pool & Spa, Inc. v. Hayward Indus., Inc.*, No. 5:11-cv-459-F, 2012 U.S. Dist. LEXIS 7096, at *26 (E.D.N.C. Jan. 23, 2012). This is not the case here; Senior can point to no serious public harm that would result from enjoining its infringement and misappropriation.

CONCLUSION

For the foregoing reasons, Celgard respectfully requests that the Court grant Celgard's Motion for a Temporary Restraining Order and for a Preliminary Injunction.

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